

FIG. 1

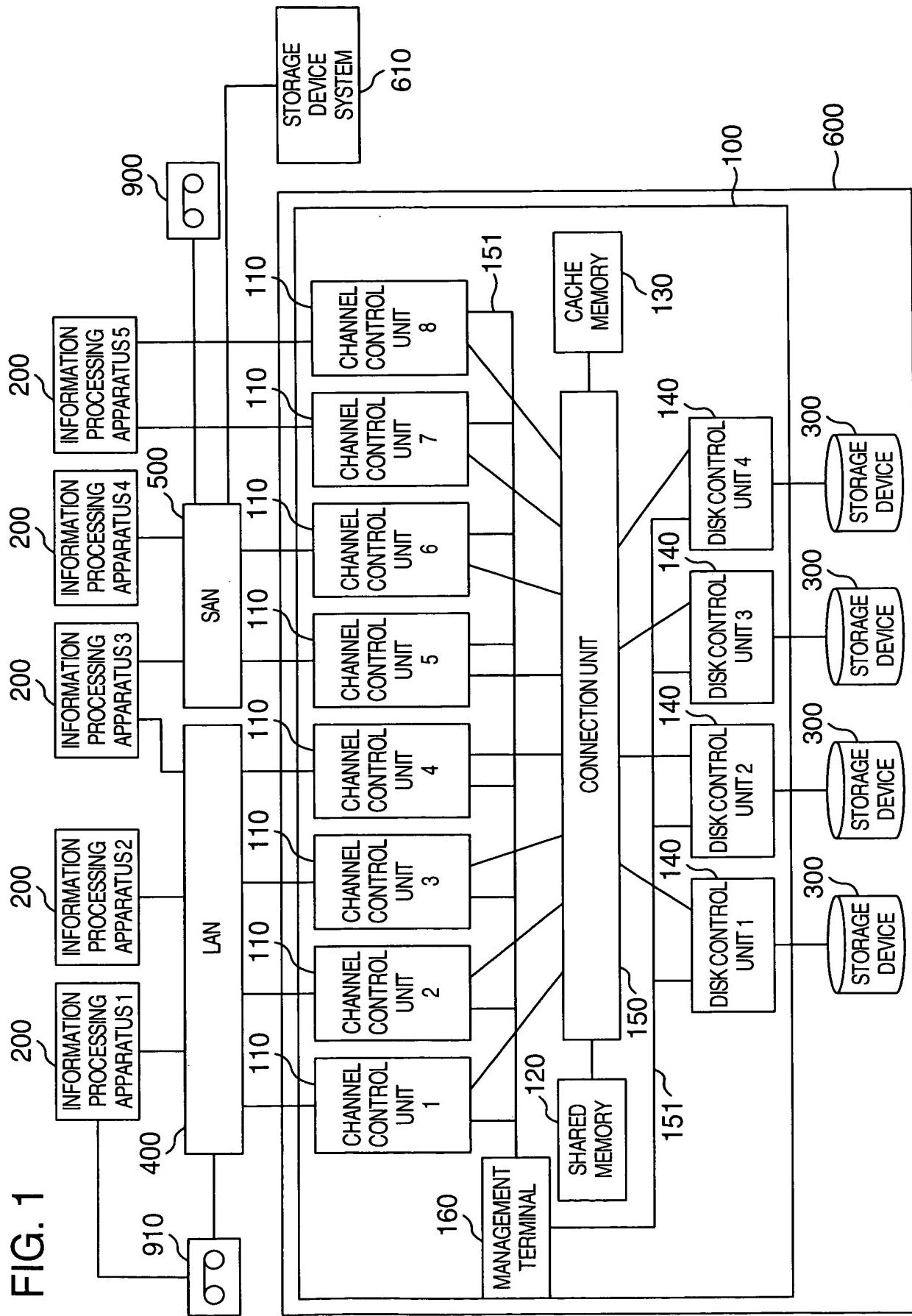


FIG. 2

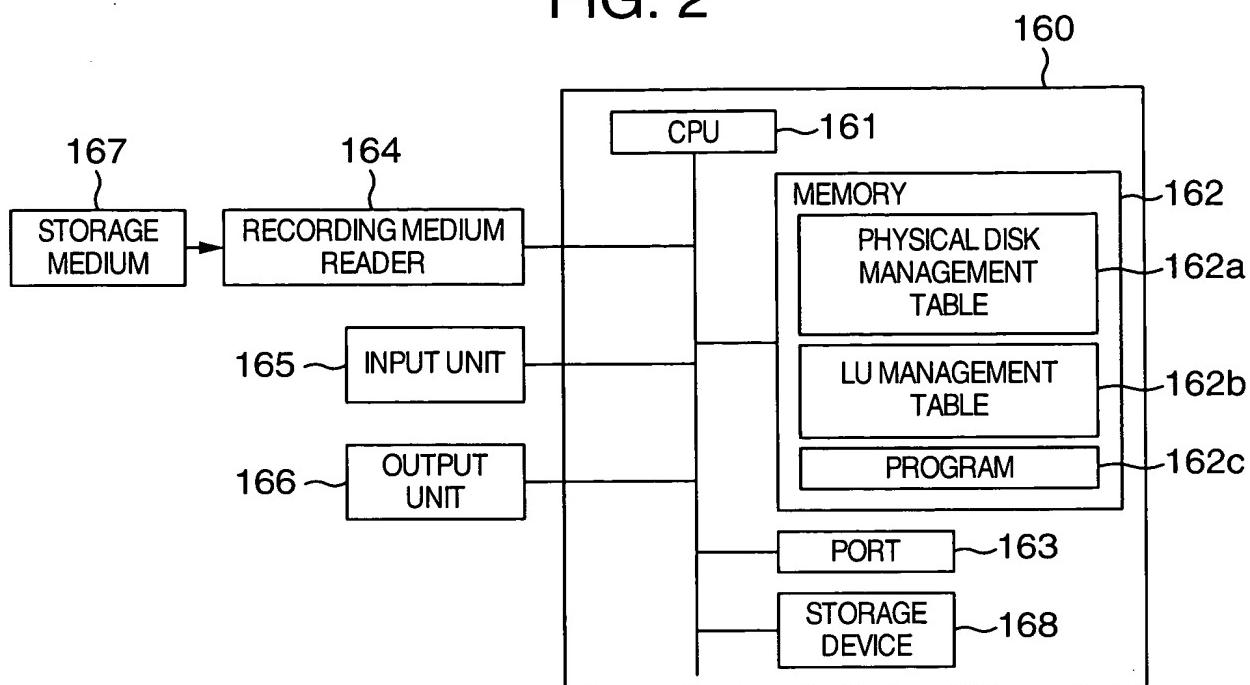


FIG. 3

162a

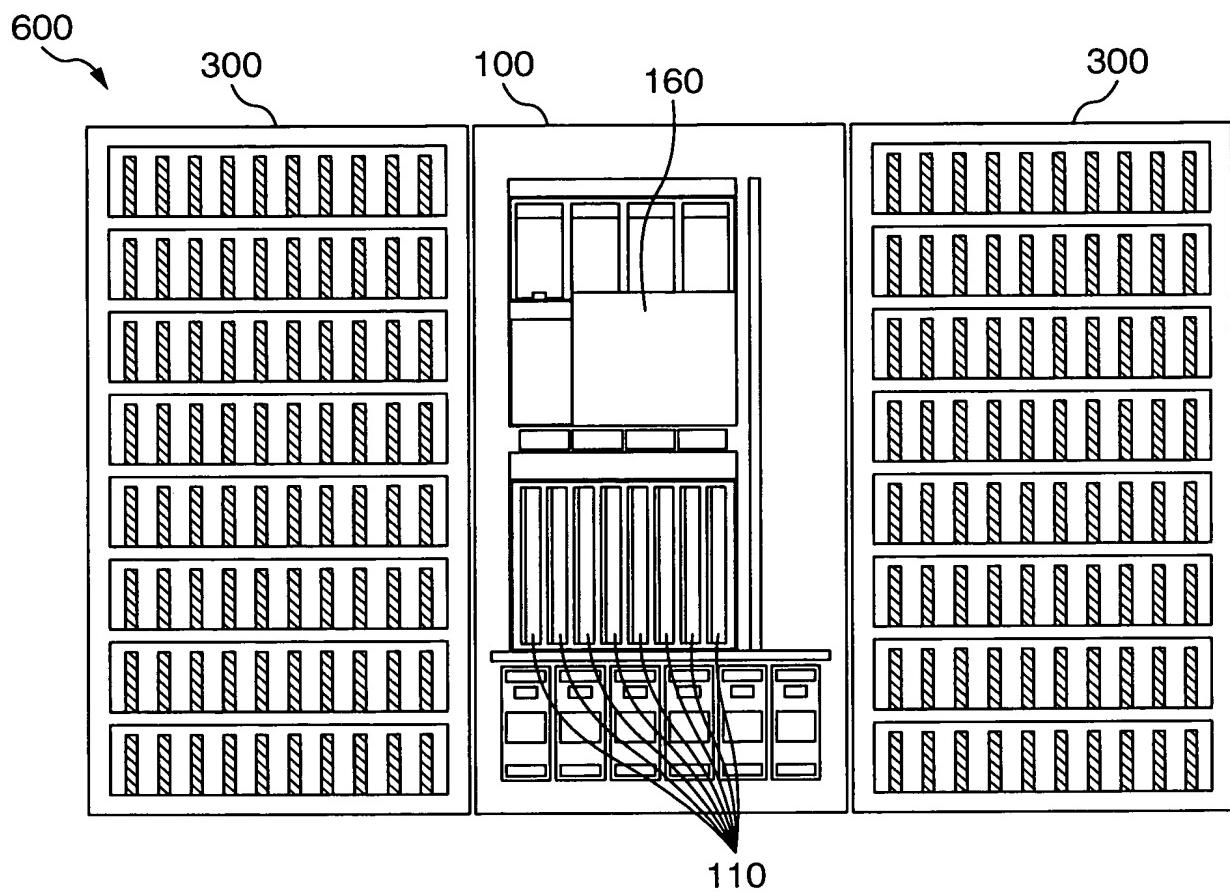
DISK NUMBER	VOLUME	RAID	USING STATE
#001	100GB	5	USED
#002	100GB	5	USED
#003	100GB	5	USED
#004	100GB	5	USED
#005	100GB	5	USED
#006	50GB	—	NOT USED
:	:	:	:

FIG. 4

162b

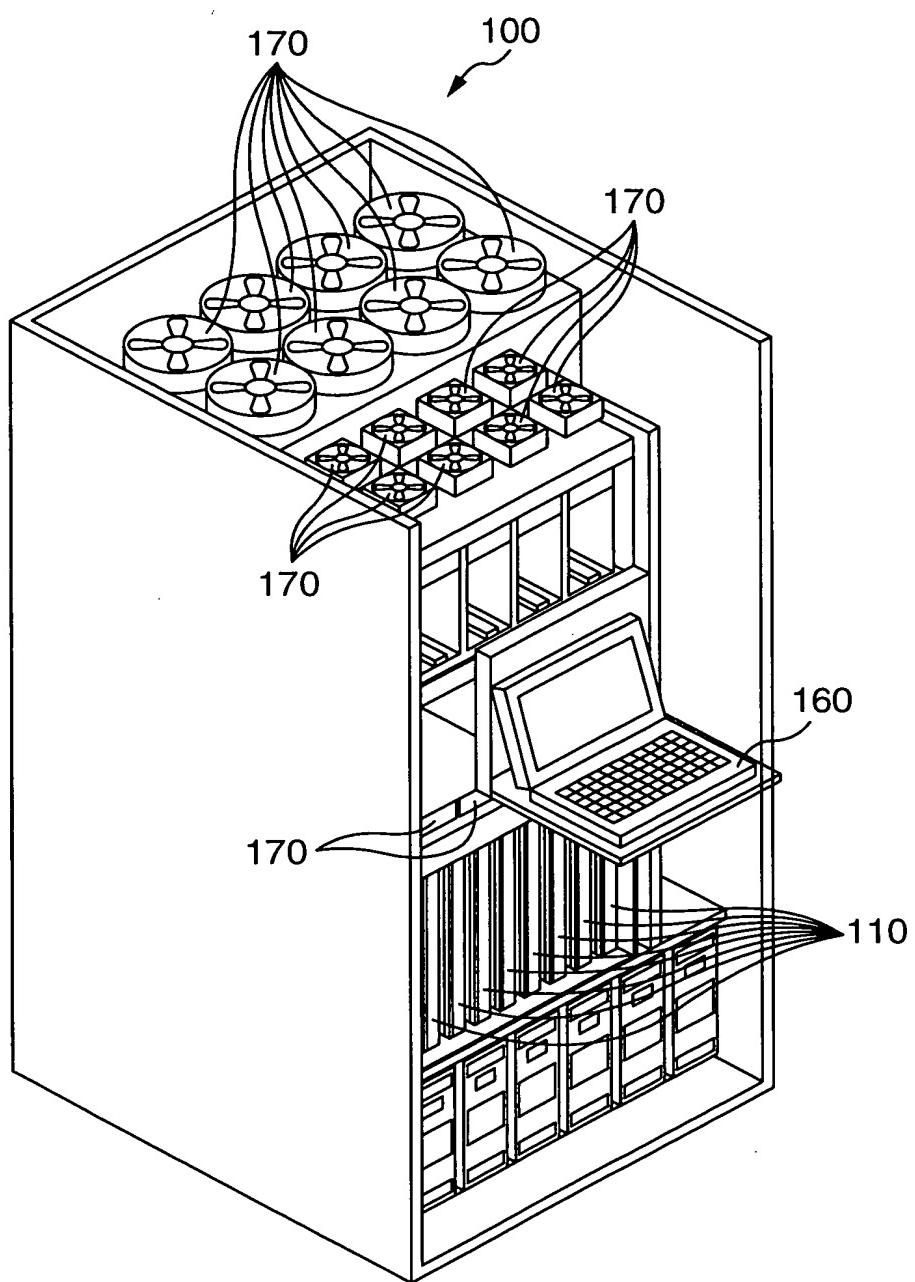
LU MANAGEMENT TABLE			
LU NUMBER	PHYSICAL DISK	VOLUME	RAID
#1	#001,#002,#003,#004,#005	100GB	5
#2	#001,#002,#003,#004,#005	300GB	5
#3	#006,#007	200GB	1
:	:	:	:

FIG. 5



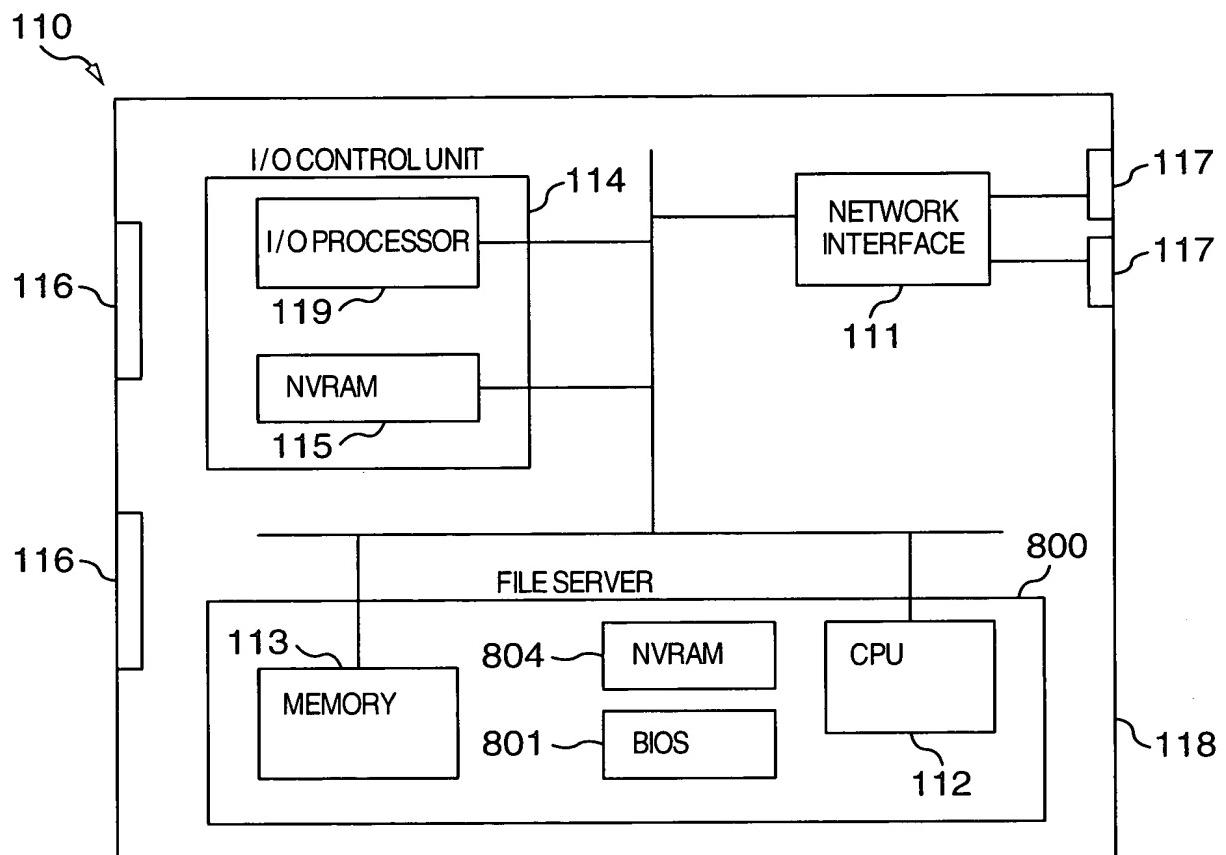
}

FIG. 6



}

FIG. 7



}

FIG. 8

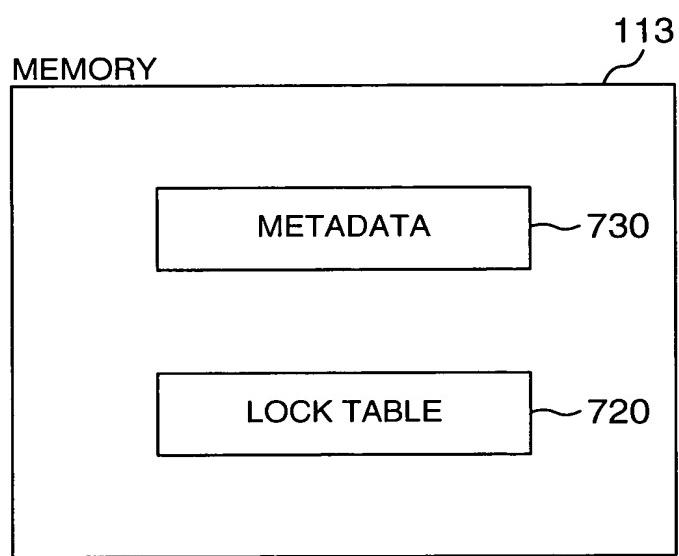


FIG. 9

730

METADATA

FILE NAME	HEAD ADDRESS	VOLUME	OWNER	UPDATE TIME
A	7BSA	200MB	X	0:00
B	05BF	50MB	X	7:57
C	1F30	100MB	Y	9:15
D	470B	100MB	Z	15:20
:	:	:	:	:

FIG. 10A

721

FILE LOCK TABLE

FILE NAME	LOCKING STATE
A	LOCKED
B	-
C	-
D	LOCKED
:	:

722

LU LOCK TABLE

LU	LOCKING STATE
SHARED	-
1	LOCKED
2	-
:	:

FIG. 11

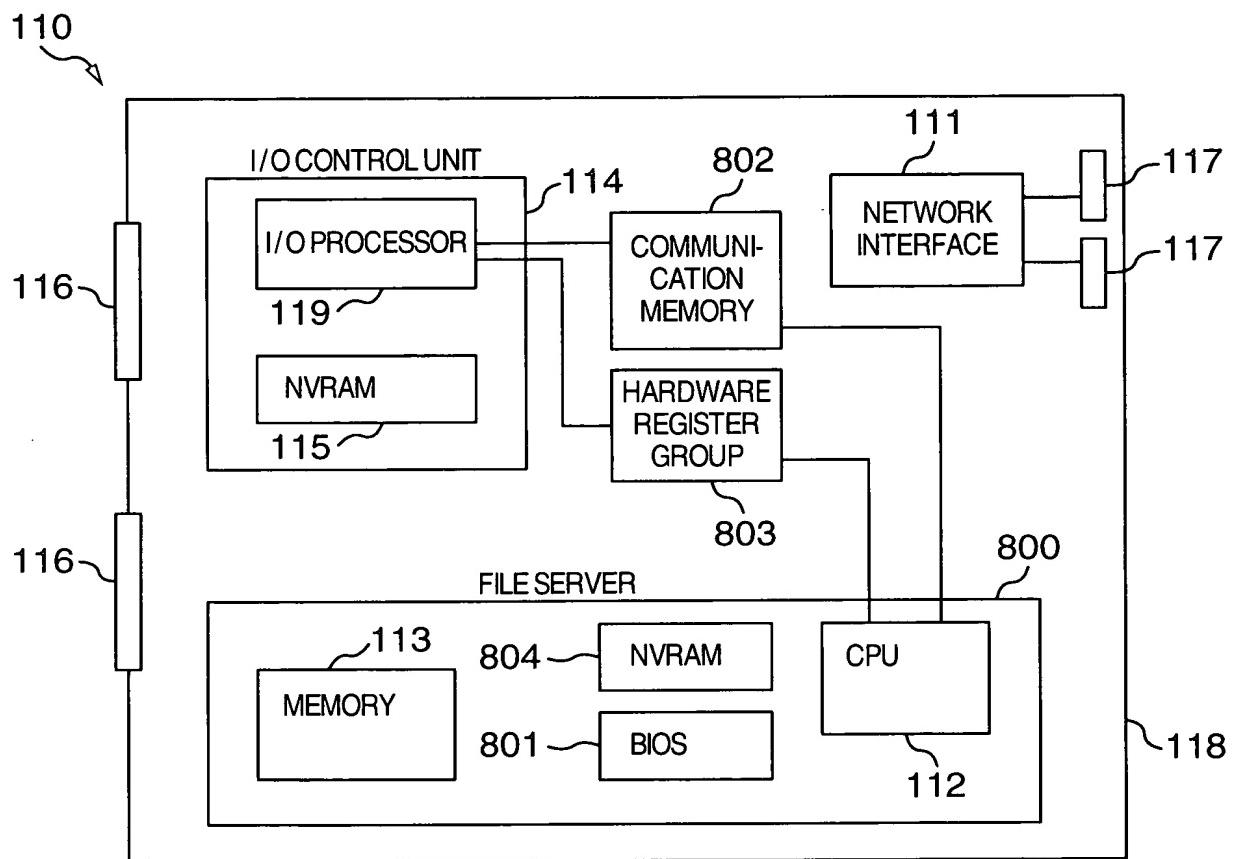


FIG. 12

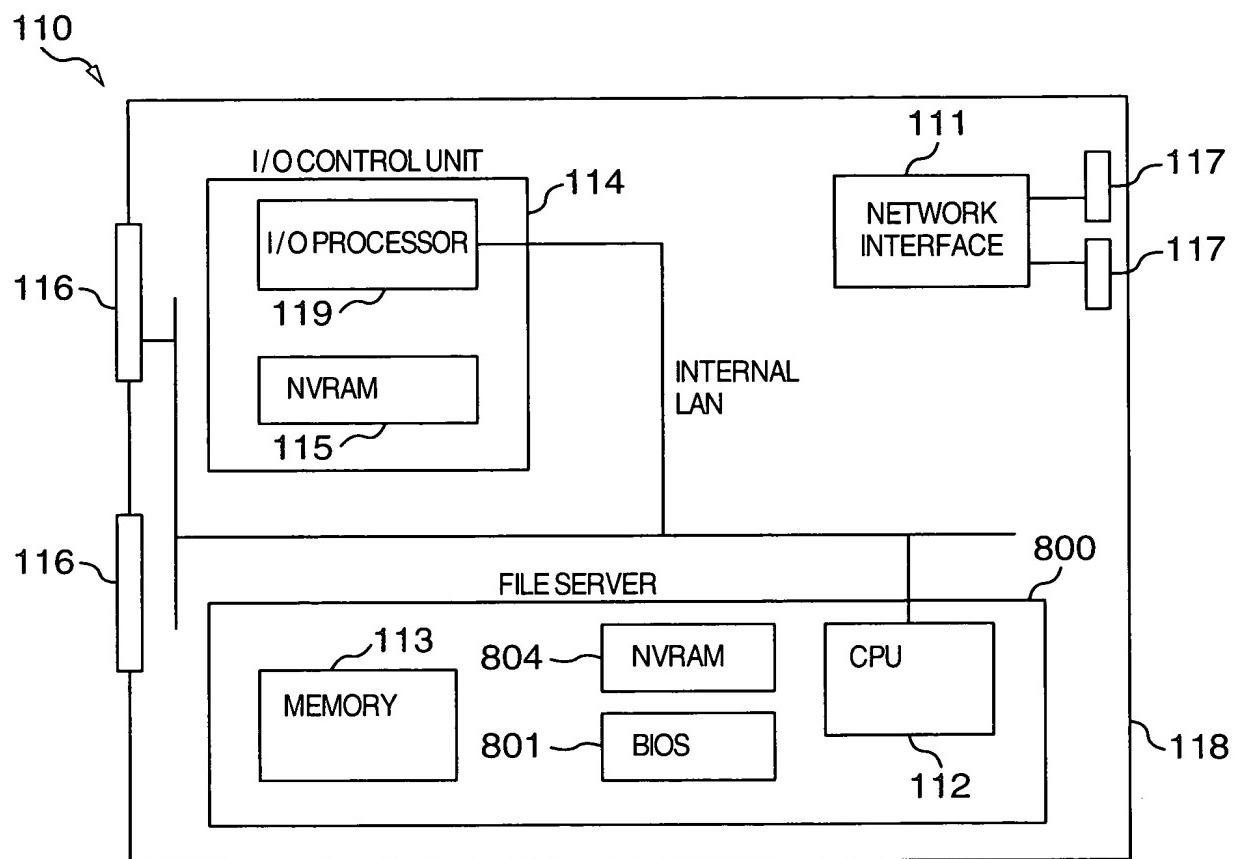


FIG. 13

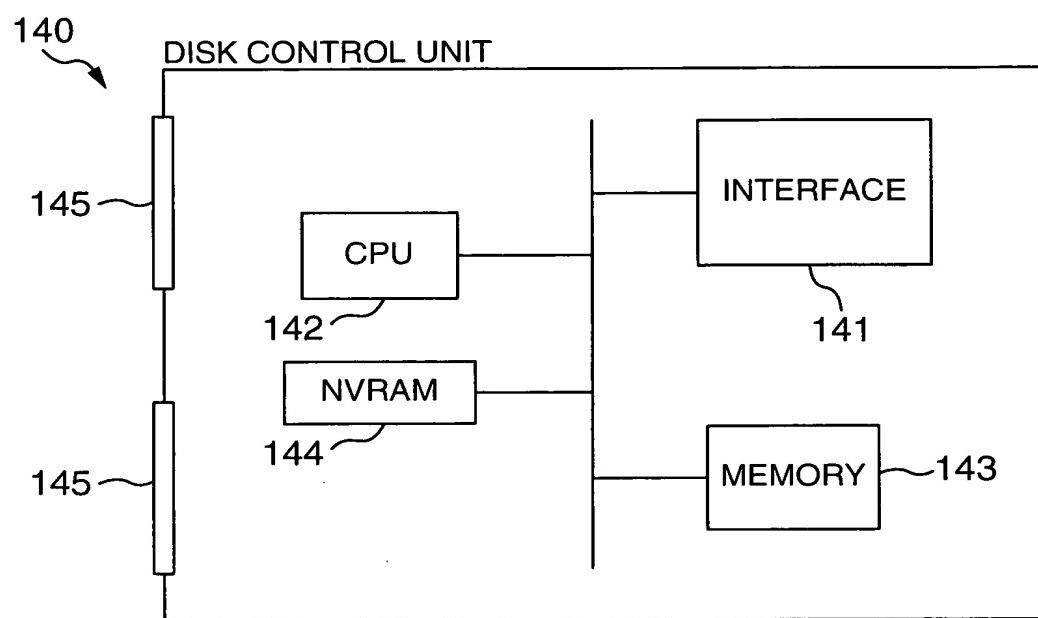


FIG. 14

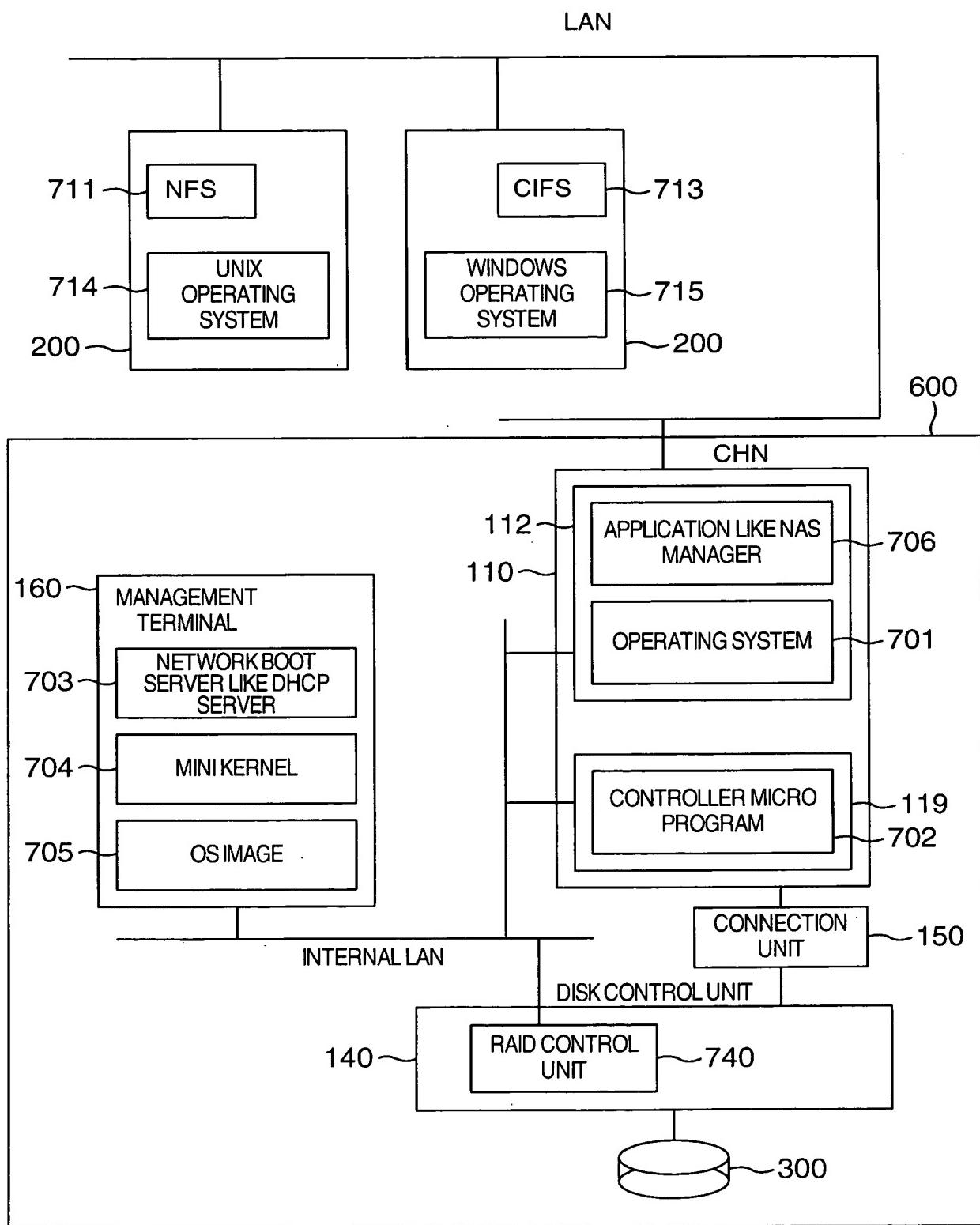


FIG. 15

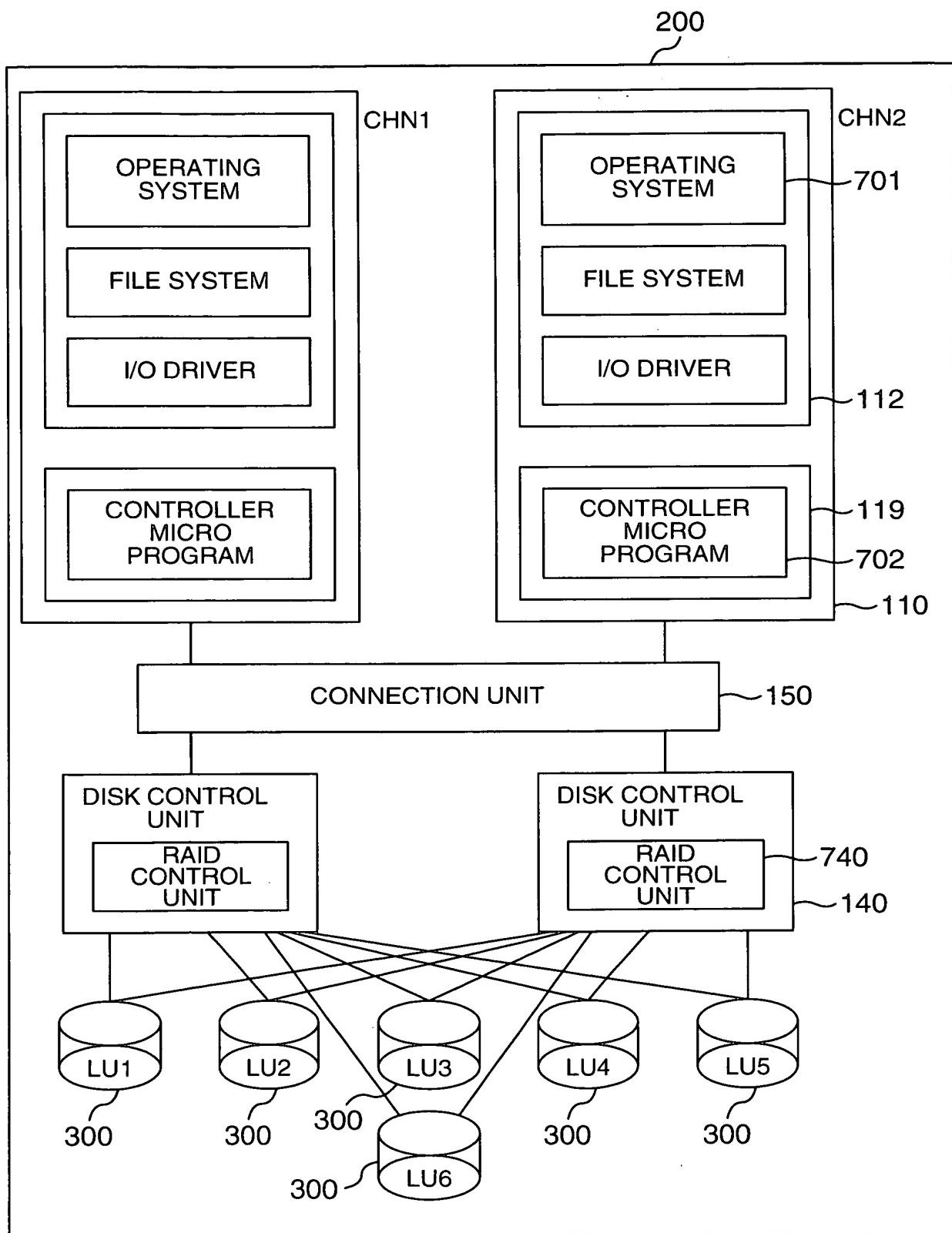


FIG. 16

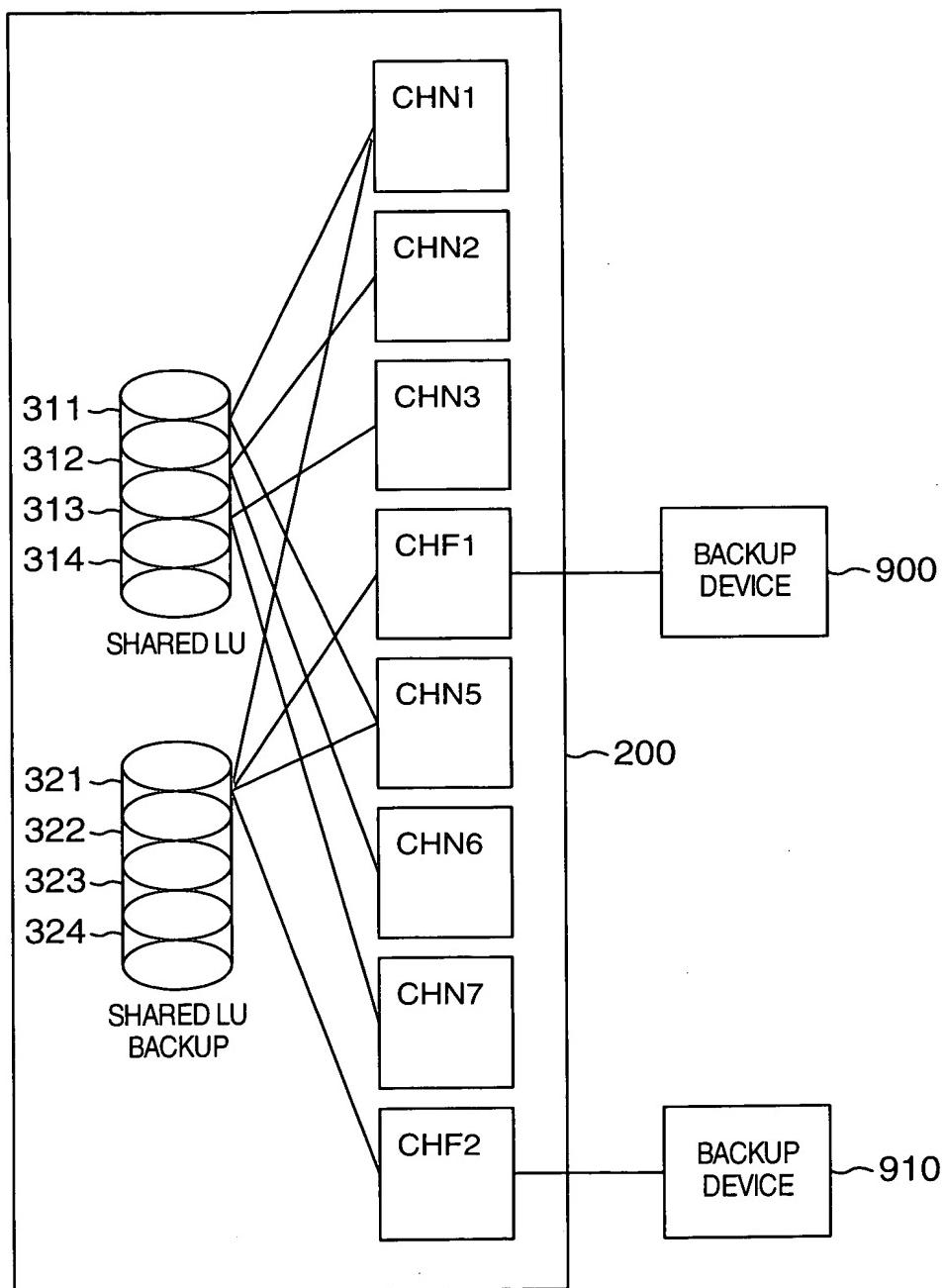


FIG. 17

SEQUENCE NUMBER	OPERATING SYSTEM (CHN1)	IO PROCESSOR (CHN1)	OPERATING SYSTEM (CHN5)	IO PROCESSOR (CHN5)	MANAGEMENT TERMINAL	SHARED LU	SHARED LU BACKUP	EXTERNAL BACKUP DEVICE (TAPE, ANOTHER STORAGE DEVICE)
1					INDICATE TO INITIALIZE SHARED LU ON LOGICAL LEVEL			
2						INITIALIZE SHARED LU ON LOGICAL LEVEL		
3					INDICATE TO INITIALIZE SHARED LU BACKUP ON LOGICAL LEVEL			
4							INITIALIZE SHARED LU BACKUP ON LOGICAL LEVEL	
5					INDICATE TO DEFINE PATH TO SHARED LU			
6	DEFINE PATH TO SHARED LU		DEFINE PATH TO SHARED LU					
7					INDICATE TO DEFINE PATH TO SHARED LU BACKUP			
8	DEFINE PATH TO SHARED LU BACKUP		DEFINE PATH TO SHARED LU BACKUP					
9					INDICATE TO INSTALL OPERATING SYSTEM TO CHN1 THROUGH NETWORK			
10	START INSTALL OF OPERATING SYSTEM THROUGH NETWORK							
11	INITIALIZE SHARED LU ON OPERATING SYSTEM LEVEL AND CREATE PARTITIONS FOR ALL CHNS							
12						INITIALIZE SHARED LU ON OPERATING SYSTEM LEVEL AND CREATE PARTITIONS FOR ALL CHNS		
13	INITIALIZE SHARED LU BACKUP ON OPERATING SYSTEM LEVEL AND CREATE PARTITIONS FOR ALL CHNS							
14							INITIALIZE SHARED LU ON OPERATING SYSTEM LEVEL AND CREATE PARTITIONS FOR ALL CHNS	
15	CREATE FILE SYSTEM ON SHARED LU							
16						CREATE FILE SYSTEM TO BE SHARED BY CHN1 AND CHN5		
17	CREATE FILE SYSTEM ON SHARED LU BACKUP							
18							CREATE FILE SYSTEM TO BE SHARED BY CHN1 AND CHN5	
19	NOTIFY COMPLETION OF INSTALL OF OPERATING SYSTEM THROUGH NETWORK							
20					NOTICE OF COMPLETION OF INSTALL OF OPERATING SYSTEM THROUGH NETWORK IS RECEIVED			
21					INDICATE TO INSTALL OPERATING SYSTEM IN CHN5 THROUGH NETWORK			
22			START INSTALL OF OPERATING SYSTEM THROUGH NETWORK					
23			NOTIFY COMPLETION OF INSTALL OF OPERATING SYSTEM THROUGH NETWORK					
24					NOTICE OF COMPLETION OF INSTALL OF OPERATING SYSTEM THROUGH NETWORK IS RECEIVED			

FIG. 18

SEQUENCE NUMBER	OPERATING SYSTEM (CHN1)	IO PROCESSOR (CHN1)	OPERATING SYSTEM (CHN5)	IO PROCESSOR (CHN5)	MANAGEMENT TERMINAL	SHARED LU	SHARED LU BACKUP	EXTERNAL BACKUP DEVICE (TAPE, ANOTHER STORAGE DEVICE)
1			START NORMAL PROCESS					
2	MOUNT FILE SYSTEM OF SHARED LU							
3	MOUNT OF FILE SYSTEM OF SHARED LU IS COMPLETED							
4	START NORMAL PROCESS							
5	WRITE CLIENT INFORMATION, USER INFORMATION, SERVICE OPERATION INFORMATION, AND DAEMON OPERATION INFORMATION IN SHARED LU							
6		MONITOR OPERATING STATE OF CHN1						
7	WRITE CLIENT INFORMATION, USER INFORMATION, SERVICE OPERATION INFORMATION, AND DAEMON OPERATION INFORMATION IN SHARED LU							
8		MONITOR OPERATING STATE OF CHN1						
9	WRITE CLIENT INFORMATION, USER INFORMATION, SERVICE OPERATION INFORMATION, AND DAEMON OPERATION INFORMATION IN SHARED LU							
10	FAILURE TAKES PLACE IN CHN1 (SERVICE TO CLIENT IS INTERRUPTED)							
11		MONITOR OPERATING STATE OF CHN1						
12		OCCURRENCE OF FAILURE IN CHN1 IS DETECTED						
13		MOUNT FILE SYSTEM IN SHARED LU						
14		MOUNT OF FILE SYSTEM IN SHARED LU IS COMPLETED						
15		START OPERATION WITH CLIENT INFORMATION, USER INFORMATION, SERVICE OPERATION INFORMATION, AND DAEMON OPERATION INFORMATION OF SHARED LU AND START SERVICE TO CLIENT						

FIG. 19

SEQUENCE NUMBER	OPERATING SYSTEM (CHN1)	I/O PROCESSOR (CHN1)	OPERATING SYSTEM (CHN5)	I/O PROCESSOR (CHN5)	MANAGEMENT TERMINAL	SHARED LU	SHARED LU BACKUP	EXTERNAL BACKUP DEVICE (TAPE, ANOTHER STORAGE DEVICE)
1			START NORMAL PROCESS					
2	MOUNT FILE SYSTEM OF SHARED LU							
3	MOUNT OF FILE SYSTEM OF SHARED LU IS COMPLETED							
4	START NORMAL PROCESS							
5	WRITE CLIENT INFORMATION, USER INFORMATION, SERVICE OPERATION INFORMATION, AND DAEMON OPERATION INFORMATION IN SHARED LU							
6		MONITOR OPERATING STATE OF CHN1						
7	WRITE CLIENT INFORMATION, USER INFORMATION, SERVICE OPERATION INFORMATION, AND DAEMON OPERATION INFORMATION IN SHARED LU							
8	BACK UP SHARED LU PARTITIONS FOR CHN1 AND CHN5 WITH COPY COMMAND OF OS							
9						COPY AREAS OF CHN1 AND CHN5 OF SHARED LU		
10							AREAS OF CHN1 AND CHN5 OF SHARED LU ARE COPIED	
11	BACK UP SHARED LU PARTITIONS FOR CHN1 AND CHN5 TO TAPE DRIVE THROUGH SAN WITH NDMP PROTOCOL							
12						BACKUP AREAS FOR CHN1 AND CHN5 OF SHARED LU		
13							AREAS FOR CHN1 AND CHN5 OF THE SHARED LU ARE BACKED UP	
14						SHARED LU IS DISABLED BY FAILURE		
15	FAILURE TAKES PLACE IN CHN (SERVICE TO CLIENT IS INTERRUPTED)							
16		MONITOR OPERATING STATE OF CHN1						
17		OCCURRENCE OF FAILURE IN CHN1 IS DETECTED						
18		INDICATE TO MOUNT FILE SYSTEM OF SHARED LU						
19		MOUNT OF FILE SYSTEM OF BACKUP OF SHARED LU IS FAILED						
20		INDICATE TO MOUNT FILE SYSTEM OF BACKUP OF SHARED LU						
21		MOUNT OF FILE SYSTEM OF BACKUP OF SHARED LU IS COMPLETED						
22		START OPERATION WITH CLIENT INFORMATION, USER INFORMATION, SERVICE OPERATION INFORMATION, AND DAEMON OPERATION INFORMATION OF BACKUP OF SHARED LU OR BACKUP OF SHARED LU AND START SERVICE TO CLIENT						